**8.1 Finding the Domains of Rational Functions and Simplifying Rational Expressions**

Objective 1: Know the meaning of rational function

Objective 2: Know the meaning of vertical asymptote and find the domain of a rational function

Objective 3: Simplify a rational expression

Objective 4: Form quotient functions

Objective 5: Use a rational model to describe the percentage of a quantity

**8.2 Multiplying and Dividing Rational Expressions**

Objective 1: Multiply rational expressions

Objective 2: Divide rational expressions

**8.3 Adding and Subtracting Rational Expressions**

Objective 1: Add rational expressions

Objective 2: Subtract rational expressions

**8.4 Simplifying Complex Rational Expressions**

Objective 1: Know the meaning of complex rational expression

Objective 2: Simplify complex rational expressions

**8.5 Solving Rational Equations**

Objective 1: Solve rational equations in one variable

Objective 2: Solve formulas involving rational expressions

Objective 3: Use a rational model to make estimates and predictions about the independent variable

**8.6 Modeling with Rational Functions**

Objective 1: Use a rational function to model the mean of a quantity

Objective 2: Model the percentage of a quantity

Objective 3: Use a rational function to model the time it takes to travel a given distance at a constant speed

**8.7 Variation**

Objective 1: Know the meaning of direct variation and inverse variation

Objective 2: Know how a change in the independent variable affects the value of the dependent variable in direct or inverse variation

Objective 3: Use a single point to find a direct variation equation or an inverse variation equation

Objective 4: Use direct variation models and inverse variation models to make estimates